

**FEDERAL RESERVE SYSTEM**  
**Docket No. R-0987**

**Policy Statement on Privately Operated  
Multilateral Settlement Systems**

**AGENCY:** Board of Governors of the Federal Reserve System.

**ACTION:** Policy Statement.

**SUMMARY:** As part of its payment system risk reduction program, the Board of Governors is adopting a policy statement on Privately Operated Multilateral Settlement Systems, which integrates its existing policies on Privately Operated Large-Dollar Multilateral Netting Systems and Private Small-Dollar Clearing and Settlement Systems into one comprehensive policy.

**EFFECTIVE DATE:** January 4, 1999.

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**SUPPLEMENTARY INFORMATION:**

**I. The Proposed Policy Statement**

In November, 1997, the Board issued for public comment a proposal to adopt a policy statement on Privately Operated Multilateral Settlement Systems (62 FR 60713, Nov. 12, 1997). The proposed policy statement was designed to integrate several of the Board's existing policies on payment system risk into a more comprehensive and consistent framework. The proposed policy statement addressed risks in multilateral settlement arrangements for both "small-dollar" payments, such as clearinghouses for checks and automated clearing house (ACH) payments and systems for settlement of "large-dollar" payments, which are typically used for interbank and financial market transactions. The proposal was intended to provide a flexible, risk-based approach to risk management in these systems and not mandate uniform, rigid requirements for all systems.

The proposed policy statement identified fundamental categories of risk, including credit, liquidity, operational, legal, and systemic risk, that may arise in different types of multilateral settlement arrangements. Systems would be expected to address any material risks in each category. For each type of risk, the policy statement included first, a discussion of risk factors designed to identify those multilateral settlement systems where risks may be heightened relative to other means of settlement. Second, threshold criteria were intended to identify more clearly systems in which these risk factors were not likely to arise. These criteria were intended to simplify administration of the policy and reduce potential regulatory burden on systems where the Board's analysis suggests that risks may be minimal. (An Appendix published with the proposed policy statement also provided examples of the likely application of the policy statement to specific types of systems.) Third, the proposed policy statement provided illustrations of the types of risk management measures that may be appropriate given the particular risk factors identified. Particularly for multilateral settlement systems that are not likely to raise systemic risk concerns, these illustrations were intended to provide flexible guidance rather than an exhaustive or prescriptive set of requirements, such that systems would be encouraged to implement risk management measures commensurate with the scale and scope of risks.

For multilateral settlement systems that were considered sufficiently large to raise potential systemic risk concerns, the proposed policy statement would have imposed higher risk management standards. Those larger systems that met proposed systemic risk criteria would have been expected to demonstrate robust policies and procedures for addressing settlement failures and disruptions. Certain of those larger multilateral settlement systems would also have been required to meet the same requirements of the Board's existing policy statement on Privately Operated Large-Dollar Multilateral Netting Systems (Large-Dollar Policy Statement), including meeting the Lamfalussy Minimum Standards.<sup>1</sup>

The Board also proposed to repeal its existing risk policies for certain “small-dollar” payments clearing and settlement arrangements. The earlier policies were designed to address specific situations that arose in the Federal Reserve's provision of net settlement services to depository institutions. The proposed policy statement would eliminate the need for such policies.

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<sup>1</sup> Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (Bank for International Settlements, November 1990) presented a set of minimum standards for netting schemes (Lamfalussy Minimum Standards).

## **II. The Final Policy Statement**

The Board is adopting a final policy statement that retains the structure and analytical approach of the original proposal. The policy statement replaces two existing components of the Board's Policy Statement on Payments System Risk, namely those for "Privately Operated Large-Dollar Multilateral Netting Systems" and "Private Small-Dollar Clearing and Settlement Systems," which are being repealed concurrently with the effective date of this policy statement. As in the proposal, multilateral settlement systems subject to the policy would be required to address risk factors using a set of basic analytical risk categories. The final policy statement reflects important modifications to the original proposal designed to improve the clarity and effectiveness of the policy and to address concerns identified by commenters.

### Scope and Administration of the Policy

The final policy statement includes a general threshold for application of the policy in order to eliminate potential administrative burden on those smaller systems that are not likely to pose systemic risks or other significant risk concerns. Specifically, the policy will apply to those multilateral settlement systems that settle payments with an aggregate gross value of more than \$5 billion on any day. The Board believes that systems with activity below this threshold and their members may nonetheless find the framework and analysis of the policy statement helpful in evaluating and managing risks.

### Risk Factors and Risk Management Measures

The final policy statement largely retains the discussions of credit, liquidity, operational, and legal risk factors and risk management measures in the proposal. Technical modifications have been made in a number of areas, however, to clarify the policy and address concerns of commenters, as discussed further below. In conjunction with the limitation on the scope of the policy discussed above, the final policy has been simplified by elimination of the proposed separate Systemic Risk category.

As in the proposed policy statement and the Board's existing Policy Statement on Payments System Risk, certain systems are required to meet the Lamfalussy Minimum Standards. However, under the final policy, the Board will use several factors to determine whether a system should meet the Lamfalussy Minimum Standards. These factors include the settlement of predominantly large-value, interbank or other financial market transactions, such as foreign exchange transactions, or the existence of credit or liquidity exposures that have the potential to raise significant systemic risk concerns. These factors should ensure that the Lamfalussy Minimum Standards will be applied where systemic risks exist, but allow for more flexible risk management in other systems.

The Board may be required to make infrequent case-by-case determinations in this regard. In addition, the final policy strongly encourages systems, in meeting the Lamfalussy Minimum Standards, to establish real-time risk controls and other specific risk management measures, as currently described in the Board's existing Large-Dollar Policy Statement. However, alternative risk management measures that provide an equivalent level of assurance that the Lamfalussy Minimum Standards will be met will also be considered. The final policy also includes modified terminology in restating the Lamfalussy Minimum Standards to reflect the policy's broader application to "settlement" systems rather than to "netting" systems only.

### **III. Summary of Comments**

The Board received 26 public comment letters on its proposed policy statement.<sup>2</sup> The commenters included nine commercial banking organizations, seven clearing organizations and associations, seven retail payment networks, and three trade associations.

#### General Comments

Commenters generally supported the policy's flexible approach to addressing risks in multilateral settlement arrangements. Many also supported the integration of the Board's existing policy statements within a unified, analytical framework. However, a number of commenters expressed concerns about the inclusion of clearinghouses for small-dollar or traditionally retail-oriented payments, such as checks, ACH payments, and automated teller machine (ATM) and credit card transactions, within a comprehensive policy on settlement risk. Many of these commenters focused on the requirements for real-time risk controls associated with the Lamfalussy Minimum Standards (discussed further below) and on the implication that small-dollar payments settlement arrangements may pose systemic risk. Three commenters felt that there was no rationale for unifying the large- and small-dollar policies for settlement arrangements.

A number of commenters described risk management measures used in their system and requested exemptions from the policy based on those measures. Several commenters requested that particular types of systems or payments be exempt from the policy altogether, such as credit card or ATM card settlement arrangements. Several commenters felt that the policy was too vague and did not provide sufficient guidance regarding measures that would be adequate for compliance with the policy.

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<sup>2</sup> This total does not include comment letters from Federal Reserve Banks.

The limitation on the scope of the policy to systems with daily payment activity above \$5 billion should address concerns expressed by commenters about the potential burden of the policy statement on smaller, retail-oriented systems. Under the policy, only the largest systems will need to complete an analysis of credit, liquidity, operational, and legal risks.

For systems subject to the policy statement, the Board believes that the flexible approach set out in the policy, while requiring more careful analysis on the part of the clearinghouses than would a more rigid set of requirements, is the most likely to lead to appropriate risk management measures commensurate with the level and nature of risks in different systems. The Board emphasizes that the policy does not necessarily imply that any particular system needs to make changes to its policies or procedures. In particular, for some systems covered by the policy, the risk factors described in the policy statement may not be significant. For systems that do exhibit one or more risk factors, the types of risk management measures described by a number of commenters are likely to be sufficient to meet the requirements of the policy statement. Moreover, the new policy is likely to be less burdensome than the Board's existing payment system risk policies for small-dollar payments arrangements because it does not contain specific risk management requirements for these systems. The final policy also clarifies that, in general, the Board does not believe that retail-oriented systems need to meet fully the Lamfalussy Minimum Standards and implement real-time risk controls.

Six commenters requested that the Board reference and endorse other reports on payment system risk, including one report on settlement risk issued by a private-sector task force (the NACHA/NOCH Report) and a General Accounting Office report.<sup>3</sup> These reports include useful background information and insights on certain aspects of payment system risk. Although many of the findings of the NACHA/NOCH Report are consistent with those in this policy statement, the Board does not believe that it would be appropriate to attempt to incorporate these findings within this policy statement.

#### Specific Issues on which the Board Sought Comment

##### 1. Identification of material risks; threshold criteria

Most commenters felt that the risk categories and descriptions of risk factors and risk management measures reasonably captured the features of multilateral

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<sup>3</sup> National Organization of Clearing Houses and National Automated Clearing House Association, Report of the Settlement Risk Management Task Force: Findings and Recommendations, 1996; General Accounting Office, Payments, Clearance, and Settlement: A Guide to the Systems, Risks, and Issues, June 1997, GAO/GGD-97-73.

settlement systems likely to lead to greater settlement risk (with the exception of the Systemic Risk category, discussed below). Two commenters requested that definitions of major risks be included in the policy. The final policy includes brief definitions of credit, liquidity, operational, and legal risks in the context of settlement risk management.

As noted above, the proposed policy statement included “threshold criteria” for each risk category to distinguish systems not likely to pose material risk factors. Many commenters requested clarification of the definition of certain of the thresholds. A number of commenters described certain features of their system and requested that systems with these features be exempt from the policy. Others noted that certain risk factors, such as loss-sharing arrangements, would in many cases not give rise to material risks for participants given the small size of potential losses. A number of participants felt that the netting factor was not a useful indication of liquidity risk.

The original intent of the threshold criteria was to provide simple, de minimis exclusions for systems where risks were not likely to be material. Questions raised by commenters indicate that these criteria may not prove to be as simple to implement as originally intended. The limitation on the scope of the policy to systems with daily payment activity above \$5 billion should address many of the concerns of commenters. The final policy thus does not include separate threshold criteria, although it retains the closely related discussion of risk factors.

Some commenters requested that the Board clarify that not all risk management measures listed under the discussion of risk management measures are required to address a particular risk factor. The final policy clarifies that this is the case.

Some commenters, such as ATM networks, requested greater specificity on which risk management measures would be required for their systems in order to be considered in compliance with the policy statement. Others requested that the Board confirm that certain risk measures used by their system would be considered sufficient to address a particular risk factor in all cases. For example, two commenters requested that the Board confirm that credit card systems do not exhibit legal risk by virtue of their operating rules; other commenters requested that use of the Federal Reserve's net settlement service be considered adequate protection against legal risk. Some commenters requested clarification on the acceptability of gross versus net recasts of payments in a settlement failure situation.

As noted above, the limitation on the scope of the policy to the largest systems should address many of the concerns of commenters. Even for these larger systems, the Board believes that because different systems may implement different risk management measures appropriate to the scale of risks and the nature of their operations,

additional prescriptive requirements would not be appropriate for all systems and would undermine the flexible approach of the policy. Moreover, the Board is not in a position to confirm that particular measures adopted by particular systems, such as specific time frames for settlement, provisions of system rules, or use of any particular settlement services, would be sufficient to address particular risk factors independent of detailed knowledge of the operations and other features of the particular system on an ongoing basis. However, the final policy clarifies that a system that exhibits one or more risk factors does not necessarily need to enhance its risk management policies and procedures if existing arrangements are adequate to address the particular risk factor.

## 2. Systemic risk criteria and risk management measures

The proposed policy set out dollar thresholds for identifying systems that have the potential to pose systemic risk. The Board requested comment on the thresholds used to identify those systems with the potential to pose systemic risk, as well as on the risk management measures specified for such systems. Commenters suggested a range of different criteria that may be indicative of systemic risk, including gross and net settlement volumes, settlements relative to individual participants' capital, and the characteristics of underlying payments. Some commenters noted that a uniform threshold was inappropriate, as systemic risk could depend on many factors. Commenters also requested clarification on risk management measures, including the application of the Lamfalussy Minimum Standards.

To simplify the analysis and assessment of risks and address concerns expressed by commenters, the final policy does not include a separate component for "Systemic Risk." As noted earlier, the overall scope of the policy has also been limited to systems with aggregate gross daily payment activity above \$5 billion. This threshold is also consistent with suggestions made by some commenters for identifying systems that may pose systemic risk. The Board considered other thresholds, such as those based on settlement exposures relative to the capital of participants, but concluded that such thresholds would be overly complex and burdensome as a means of identifying systems that are subject to the policy statement (as well as those that are not).

The Board continues to believe that the Lamfalussy Minimum Standards provide important guidance for addressing settlement risk in multilateral settlement systems where failure to settle net obligations as and when expected could have systemic consequences. However, the requirement that a system be capable of settling all positions in the event of the default of the largest single participant may not be necessary for certain systems. Although large check, ACH, and credit card settlement arrangements, for example, should demonstrate sound risk management measures, the Board does not believe that all of the requirements of the Lamfalussy Minimum

Standards are generally necessary for these systems. Settlement obligations for individual participants are not of the same magnitude as in traditional large-value payment systems, and credit and liquidity exposures are typically diversified over large numbers of participants. In many cases, there are reliable and timely alternatives to settlement through the clearinghouse, particularly for check and ACH clearing and settlement arrangements.

The Board will, therefore, apply additional factors to determine whether systems must meet the Lamfalussy Minimum Standards. These factors include settlement of high volumes of large-value, interbank or other financial market transactions, such as foreign exchange transactions, or significant systemic credit or liquidity risks.

The proposed policy enumerated the five implementation measures, including real-time controls and net debit caps, required of systems currently subject to the Lamfalussy Minimum Standards. Many commenters felt that real-time interbank risk controls and bilateral credit limits were generally not feasible or desirable for retail payment systems.

The modifications to the proposal discussed above should obviate these concerns. In addition, to provide additional flexibility, the final policy has been modified to permit alternative risk management controls that provide an equivalent level of certainty that the Lamfalussy Minimum Standards can be met. The final policy also clarifies that, as in the Board's existing policy for large-dollar multilateral netting systems, centrally managed limits between the system and each participant would be considered equivalent to bilateral limits when the system itself acts as a central counterparty or otherwise guarantees settlement. This is also consistent with the Board's approach under Regulation F, where institutions are required to set bilateral limits on credit and liquidity exposures to correspondents and other counterparties.

### 3. Usefulness of an Appendix

Most commenters felt that the Appendix to the proposed policy containing examples of application of the policy was useful, although several commenters disagreed. Given the limitation on the scope of the final policy, the Board does not believe that such examples are necessary. Thus, the final policy does not include an Appendix.

### Other Comments

#### 1. Administration and enforcement of the policy statement

A number of commenters raised questions about the administration and enforcement of the policy statement. Two commenters stated that the Board should not

apply or enforce the policy through provision of Federal Reserve net settlement services. Several commenters encouraged the development of interagency supervisory examination procedures to provide a consistent, objective approach to enforcement of the policy statement. A few commenters requested that the legal status of the policy statement be clarified, and that an appeals process be specified for actions taken under the policy statement.

Like other components of the Board's Policy Statement on Payments System Risk, this policy statement is not a regulation, but rather provides the framework that the Board expects to use when taking action on matters within its jurisdiction. The Board expects to administer the policy statement through its existing authority, including its supervisory jurisdiction over institutions such as state member banks and bank holding companies, as well as Federal Reserve service relationships, where appropriate. The assessment of compliance with the policy statement will not be based on the use of any particular type of Federal Reserve net settlement service, but rather on systems' risk factors and risk management policies. The avenues for appealing actions under the policy would be the same as in the Board's existing supervisory or service relationships. Given the limited scope of the final policy, the Board does not believe that interagency examination procedures are needed at this time.

Two commenters asked that the Board clearly specify any reporting requirements for gross and net settlement data and position data. The final policy includes a clarification as to the type of data that may be requested.

## 2. Repeal of existing small-dollar policies

Five commenters objected to the perceived withdrawal of the Board's approval under the Board's existing payment system risk policies for small-dollar systems. Some of these commenters requested that a program of certification of compliance with the policy statement be developed in lieu of these "approvals."

The "approvals" referred to by commenters represent previous determinations by the Board that particular systems may use the Fedwire-based net settlement services across multiple Federal Reserve Districts. In 1990, the Board established a set of conditions, embodied in the current Payments System Risk policy for "small-dollar" systems, for the use of this service. Subsequent applications for cross-District net settlement services have been reviewed under this policy. The conditions in the policy were designed in large part to address specific concerns about risk to the Federal Reserve in providing cross-District net settlement services.

Although the Board is repealing its existing small-dollar policies concurrently with the issuance of this policy statement, the Board is not repealing the prior approval of any system to use the Fedwire-based, cross-District net settlement service in conjunction with issuance of this policy. In general, such cross-District systems may continue to use the Fedwire-based net settlement service. As with any system subject to this policy, regardless of whether it uses the Fedwire-based net settlement service, another Federal Reserve net settlement service, or another settlement method, appropriate enforcement actions will be considered if the system is found to be not in compliance with the policy. The Board also notes that approval to use the cross-District net settlement service or any other Federal Reserve service does not imply Federal Reserve endorsement of a particular system or of its risk management arrangements, and should not be used to communicate any such endorsement to participants or potential participants. Moreover, the Board does not anticipate formally certifying compliance of systems under the policy, as this would be likely to reduce the normal incentives for participants to monitor and manage the risk in systems in which they participate.

#### Effective date

The policy statement will be effective January 4, 1999 to permit systems subject to the policy a six-month period to assess and ensure their compliance. Although the Board does not expect that compliance with the policy statement will necessitate operational changes for the few systems that will fall within its scope, the Board recognizes that systems may currently have other critical efforts underway, such as preparation for the century date change. As a result, the Board will consider extending the effective date on a case-by-case basis for systems that can demonstrate significant resource demands due to other critical efforts.

#### **Competitive Impact Analysis:**

The Board has established procedures for assessing the competitive impact of rule or policy changes that have a substantial impact on payments system participants.<sup>4</sup> Under these procedures, the Board will assess whether a change would have a direct and material adverse effect on the ability of other service providers to compete effectively with the Federal Reserve in providing similar services due to differing legal powers or constraints, or due to a dominant market position of the Federal Reserve deriving from such differences. If no reasonable modifications would mitigate the adverse competitive effects, the Board will determine whether the anticipated benefits are significant enough to proceed with the change despite the adverse effects.

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<sup>4</sup>These procedures are described in the Board's policy statement "The Federal Reserve in the Payments System," as revised in March 1990. (55 FR 11648, March 29, 1990).

The Board does not believe that the adoption of this policy statement will have a direct and material adverse impact on the ability of other service providers to compete effectively with the Reserve Banks' payments services. The repeal of the Board's existing policies for small-dollar payments clearing arrangements, together with the Board's proposal for an enhanced net settlement service, should reduce costs and other potential barriers for private check and ACH clearing and settlement arrangements that compete with the Federal Reserve. While the Reserve Banks are not subject to this policy statement, the Board notes that settlement risk exposures arising from services provided by central banking organizations are inherently different than for private-sector organizations. In addition, the Reserve Banks are subject to Part I of the Policy Statement on Payments System Risk, which requires them to implement an extensive program of risk controls, including ongoing monitoring of all depository institution customers, net debit caps, and fees that are charged to depository institutions for the use of intraday credit.

## **FEDERAL RESERVE SYSTEM POLICY STATEMENT ON PAYMENTS SYSTEM RISK**

The Board is amending its "Federal Reserve System Policy Statement on Payments System Risk" under the heading "II. Policies for Private-Sector Systems" by removing "A. Privately Operated Large-Dollar Multilateral Netting Systems" in its entirety and adding in its place "A. Privately Operated Multilateral Settlement Systems" and removing "C. Private Small-Dollar Clearing and Settlement Systems" in its entirety.

### **II. POLICIES FOR PRIVATE-SECTOR SYSTEMS**

#### **A. Privately Operated Multilateral Settlement Systems**

##### Introduction

Multilateral settlement systems, such as clearinghouses and similar arrangements, may produce important efficiencies in the clearance and settlement of payments and financial contracts. Participants in such systems, typically depository institutions, exchange payments for their own account or the accounts of their customers in a coordinated fashion and settle the resulting obligations on a multilateral, often net, basis.

A variety of credit, liquidity, and other risks can arise in the clearing and settlement process that institutions must manage in the normal course of business, regardless of the method of clearing and settlement. Existing supervisory standards are generally directed at ensuring that institutions establish appropriate policies and procedures to manage such risks. For example, Federal Reserve Regulation F directs insured depository institutions to establish policies and procedures to avoid excessive

exposures to any other depository institutions, including exposures that may be generated through the clearing and settlement of payments.<sup>5</sup>

However, the use of multilateral settlement systems introduces the risk that a failure of one participant in the system to settle its obligations when due could have credit or liquidity effects on participants that have not dealt with the defaulting participant. Multilateral settlement may, in some cases, also have the effect of altering the underlying bilateral relationships that arise between institutions during the clearing and settlement process. As a result, the incentives for, or ability of, institutions to manage and limit the risk exposures to other institutions, as required under Regulation F, may be reduced. In addition, in some cases, there may be no timely or feasible alternative to settlement through the multilateral system in the event that the system fails to complete settlement, due, for example, to a participant default. These factors may create added risks to participants in certain multilateral settlement systems relative to other settlement methods. As a result, a number of multilateral settlement systems and their participants have implemented a variety of risk management measures to control these risks.

Clearinghouses also may generate systemic risks that could threaten the financial markets or the economy more broadly. The failure of a system to complete settlement as and when expected could generate unexpected credit losses or liquidity shortfalls that participants in the system are not able to absorb. Thus, the inability of one participant to meet its obligations within the system when due could lead to the illiquidity or failure of other institutions. Further, the disruption of a large number of payments and the resulting uncertainty could lead to broader effects on economic activity. In addition, as the Federal Reserve has established net debit caps and fees for daylight overdrafts, along with other risk management measures for Federal Reserve payment services, the potential exists for intraday credit risks to be shifted from the Federal Reserve to private, multilateral settlement arrangements, either domestically or in other countries, that have inadequate risk controls.

The Board believes that these concerns warrant the application of a risk management policy to those multilateral settlement systems that have the potential to raise systemic risks, particularly in cases where risks may not be adequately addressed by existing supervisory guidance on management of exposures to other depository institutions. The Board recognizes that multilateral settlement systems differ widely in terms of form, function, scale, and scope of activities. Thus, risk management measures may be designed differently for different systems. This policy statement, therefore, is

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<sup>5</sup>See 12 CFR 206.

designed to permit market participants to determine the best means of addressing risks, within the guidelines provided. As a general rule, risk management measures should be commensurate with the nature and magnitude of risks involved.

The Board's adoption of this policy in no way diminishes the primary responsibilities of participants in, and operators of, multilateral settlement systems to address settlement and other risks that may arise in these systems. In addition, the Board encourages all multilateral settlement systems to consider periodically cost-effective risk management improvements, even if not specifically required under this policy. Insured depository institutions participating in multilateral settlement systems are also expected to limit any significant bilateral credit and liquidity exposures to other institutions as required under Federal Reserve Regulation F.

#### Scope and Administration of the Policy

This policy statement applies to privately operated multilateral settlement systems or arrangements with three or more participants that settle U.S. dollar payments, including but not limited to systems for the settlement of checks, automated clearinghouse (ACH) transfers, credit, debit, and other card transactions, large-value interbank transfers, or foreign exchange contracts involving the U.S. dollar where the aggregate gross value of payments is expected to exceed \$5 billion on any day during the next 12 months.<sup>6</sup> Further, the policy does not apply to clearing and settlement systems for securities or exchange-traded futures and options, and is not intended to apply to bilateral relationships between financial institutions, such as those involved in traditional correspondent banking. The Board may also apply this policy to any non-U.S. dollar system based, or operated, in the United States that engages in the multilateral settlement of non-dollar payments among financial institutions and that would otherwise be subject to this policy.

The Board expects to be guided by this policy statement in taking action in its supervisory and operational relationships with state member banks, bank holding companies, and clearinghouse arrangements, including, for example, the provision of net

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<sup>6</sup> The gross value of payments settled refers to the total dollar value of individual payments or transactions that are settled in the system, which represents the sum of total debits or total credits to all participants prior to any netting of settlement obligations. “On-us” transactions that do not require interbank settlement, but may in some cases be processed by the system, may be excluded for purposes of these calculations. Where a system conducts multiple settlements per day, these settlements should be aggregated for purposes of this calculation if they are conducted among the same group of participants subject to the same rules and procedures.

settlement services and the implementation of the Bank Service Company Act.<sup>7</sup> Systems subject to this policy may be asked to provide to the Federal Reserve peak and daily average aggregate gross and net settlement data for the most recent 12-month period or calendar year, as well as peak and daily average settlement position data for individual participants.

#### Risk Factors and Risk Management Measures

An analysis of settlement risks in any multilateral settlement system should begin with the identification of key risks and exposures. For purposes of this policy, the general categories of settlement risk include credit risk--the risk to participants or to the system that a participant will be unable to meet fully its settlement obligation; liquidity risk--the risk that participants or the system will have insufficient funds available to meet settlement obligations as and when expected; operational risk--the risk that operational factors in the settlement process may cause or exacerbate these credit or liquidity risks or disrupt the settlement of payments; and legal risk--the risk that legal uncertainties in the settlement process may cause or exacerbate these credit and liquidity risks.

Systems subject to the policy that exhibit one or more risk factors should assess whether their policies and procedures adequately address those specific risks, including consideration of the risk management measures listed below. In general, risk management controls should be proportional to the nature and magnitude of risks in the particular system. The Board does not expect that all of the specific risk management measures listed below will be necessary or appropriate for all systems; moreover, there may be other risk management measures that will address a particular risk factor. Systems that exhibit one or more risk factors may not need to implement any additional risk controls as a result of this assessment if existing risk controls adequately address the particular risk.

If necessary, the Board and its staff will work with systems to determine whether changes in their policies or operations are required and, if so, whether steps proposed by the system would adequately address the risk factor. In some cases, an operational change may mitigate a particular risk factor. In other cases, systems may need to develop or modify written rules, policies, and procedures that specify the rights and obligations of participants, as well as other relevant parties, such as settlement agents for the system, in the event that a settlement cannot be completed as and when expected. Such rules and procedures should be disclosed to all participants and their primary regulatory authorities.

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<sup>7</sup>12 U.S.C. 1861-67.

To facilitate the analysis under this policy, systems may need to develop the capability to simulate credit and liquidity effects on participants and on the system resulting from one or more participant defaults, or other possible sources of settlement disruption.<sup>8</sup> Systems may also need to test the operational capability to execute settlement failure procedures, where these differ from normal settlement procedures. Documentation of any significant legal analysis or agreements relevant to risk management may also be appropriate.

### (1) Credit risk

**Risk factors:** A multilateral settlement system would give rise to credit risk if its rules or practices significantly increase or shift the bilateral obligations or credit exposures between participants in the clearing and settlement process. For example, a clearinghouse operator or agent that provides an implicit or explicit guarantee of settlement could shift bilateral exposures. Such a guarantee might be implemented through the establishment of a central counterparty for all transactions, or through other provisions in the system's rules, such as a guarantee of members' settlement obligations, third-party credit arrangements, or the system's ability to recover settlement-related losses from participants. Additionally, a system may expose participants to credit risk to one another, due for example, to agreements to mutualize any settlement losses.

**Risk management measures:** Measures that are commonly used to mitigate credit risk in a multilateral settlement system and provide support for settlement guarantees include monitoring of participants' financial condition, caps or limits on some or all participants' positions in the system, and requirements for collateral, margin, or other security from some or all participants. Systems in which participants have significant bilateral exposures to one another or to the system, such as through loss-sharing agreements, may need to implement mechanisms for participants to control these exposures if they are significant. Use of settlement methods with same-day finality may also shorten the duration of credit risk exposure in a system.

### (2) Liquidity risk

**Risk factors:** A multilateral settlement system would give rise to liquidity risk for its participants if a delay, failure, or reversal of settlement would be likely to cause a significant change in settlement amounts to be paid or received by participants on the settlement date. The degree of liquidity risk in a particular system is likely to be

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<sup>8</sup>Such simulations may include, if appropriate, the effects of changes in market prices, volatilities, or other factors.

greater (1) the larger are gross payment flows relative to netted amounts to be settled; (2) the larger are participants' settlement positions relative to their available funding resources; (3) the later that participants would be notified of a settlement disruption relative to the timing of activity in the money markets and other funding channels, and (4) the greater the likelihood that a settlement failure of the particular system would be accompanied by abnormal market conditions.

Risk management measures: One approach to mitigating liquidity risk is to implement measures to reduce significantly both the probability and the effect of a settlement disruption. For example, many of the measures described above that are commonly used to mitigate credit risk may reduce the probability and effect of a participant's inability to meet its settlement obligations when due. External liquidity resources available to the system and adequate operational contingency arrangements may also mitigate liquidity risk.

Some systems anticipate performing a recast of settlements in the event of a participant default, by recalculating multilateral net settlement obligations among participants. These systems are expected to assess, and where necessary address, the liquidity impact on participants of such a procedure.<sup>9</sup> For example, timely notification of settlement failure before or during the period of active money market trading should permit participants readily to borrow funds to cover any shortfalls due to the recast. Individual participants may also take steps to limit their own liquidity exposures in the system or increase available liquidity resources.

### (3) Operational risk

Risk factors: Operational risks, such as those relating to the reliability and integrity of electronic data processing facilities used in the clearing and settlement process, are addressed in standard supervisory guidance for depository institutions and their service providers. Operational risk factors for purposes of this policy statement include those that could hinder the timely completion of settlement or the timely resolution of a settlement disruption in a multilateral settlement system. For example, for a system that anticipates recasting settlement obligations in the event of a participant

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<sup>9</sup>For example, in a “recast” of settlements, some or all transactions involving the defaulting participant would be removed from the system's settlement process, to be settled or otherwise resolved outside the system. A revised multilateral settlement with recalculated settlement obligations would then be conducted among the remaining participants. In an “unwind,” transactions or settlement obligations to be settled on the day of the default for all participants would be removed from the system.

default, operational obstacles could make it difficult or impossible for participants to arrange settlement outside the system on a timely basis in the event of a settlement failure. As a result, those participants expecting to receive funds could face significant liquidity risk. In addition, in some cases, failure to complete settlement on a timely basis could change the rights of participants with respect to the underlying payments, creating potential credit or liquidity risks. For example, institutions that are unable either to return or to settle for checks presented to them on the same day may lose the right to return the checks for insufficient funds.

Further, certain risk control procedures implemented by a particular system may themselves entail operational risks. The ability of a system to execute a recast of settlements, implement guarantee provisions, or access lines of credit may depend on the operational reliability of the system's facilities.

Risk management measures: Multilateral settlement systems and their participants typically mitigate the risk of operational failure in their daily processing activities through standard techniques, such as contingency plans, redundant systems, and backup facilities. For purposes of this policy statement, systems should ensure the reliable operational capability to execute procedures used to resolve a participant default or other settlement disruption as well as to implement other risk management measures.

For example, if a system anticipates recasting settlements by excluding transactions of a defaulting participant, it should ensure that the system can perform any required processing, generate the necessary information, and provide the information to participants in a timely manner. To the extent that payments would be expected to be settled outside the system, procedures should be established to notify participants such that they have adequate time, settlement information, and operational capabilities to complete such settlements before the close of critical funds transfer systems. A system that does not anticipate recasting settlements but plans to settle all positions as and when expected should ensure that operational procedures to implement risk management measures are in place, such as means of access to lines of credit in a timely manner.

#### (4) Legal risk

Risk factors: Legal risk may exist in a multilateral settlement system if there is significant uncertainty regarding the legal status of settlement obligations or of the underlying transactions in the event of a settlement failure. Significant legal uncertainty could exacerbate efforts to achieve an orderly and timely resolution and could expose participants to significant credit and liquidity risks. For example, if the obligations of participants with respect to underlying transactions exchanged in the system have no enforceable legal status in the event of a system settlement failure, the ability of the participants to revert to other methods of settlement on a timely basis may

be in doubt. Legal risk would also arise if the legal enforceability of any significant risk management measures, netting agreements, or related arrangements, is not well supported.

Risk management measures: Systems should address legal risk factors, where significant exposures may arise, by ensuring that operating rules or other agreements between participants will be enforceable in the event of a settlement failure. As part of this process, systems may wish to obtain legal opinions as to the enforceability of its rules and agreements under applicable legal regimes. Additionally, when the transactions settled through the system are not otherwise covered by an established body of law, the system should ensure that the rights and obligations of the participants are adequately addressed through the system's rules or participant agreements.

#### Application of the Lamfalussy Minimum Standards

Certain multilateral settlement systems are also required to meet the Lamfalussy Minimum Standards.<sup>10</sup> These standards were designed to address the main risk factors that may be present in multilateral settlement systems and to provide confidence that such systems can settle all positions as and when expected in the event that a participant cannot meet its settlement obligations, thereby reducing substantially the risk that a default by one participant will cause defaults by others. To determine whether a system is also required to meet the Lamfalussy Minimum Standards, the Board will consider additional factors that include the following: settlement of a high proportion of large-value, interbank or other financial market transactions, such as foreign exchange transactions; very large liquidity exposures that have potentially systemic consequences, such as by virtue of a high ratio of gross payments to net settlement obligations; or systemic credit exposures relative to participants' financial capacity.

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<sup>10</sup>The Report of the Committee on Interbank Netting Schemes of the Central Banks of the Group of Ten Countries (Bank for International Settlements, November 1990), known as the Lamfalussy Report, recognized that netting arrangements for interbank payment orders and forward-value contractual commitments, such as foreign exchange contracts, have the potential to improve the efficiency and the stability of interbank settlements through the reduction of costs along with credit and liquidity risks, provided certain conditions are met. That Report developed and discussed "Minimum Standards for Netting Schemes" (Lamfalussy Minimum Standards) and "Principles for Co-operative Central Bank Oversight" of such arrangements. These standards have been adopted by the central banks of the G-10 and European Union countries. The text included in this policy statement includes editorial modifications to the original standards.

Lamfalussy Minimum Standards for the Design and Operation of Privately Operated Large-Dollar Multilateral Settlement Systems:

1. Multilateral settlement systems should have a well-founded legal basis under all relevant jurisdictions.
2. Multilateral settlement system participants should have a clear understanding of the impact of the particular system on each of the financial risks affected by the netting process.
3. Multilateral settlement systems should have clearly-defined procedures for the management of credit risks and liquidity risks which specify the respective responsibilities of the netting provider and the participants. These procedures should also ensure that all parties have both the incentives and the capabilities to manage and contain each of the risks they bear and that limits are placed on the maximum level of credit exposure that can be produced by each participant.
4. Multilateral settlement systems should, at a minimum, be capable of ensuring the timely completion of daily settlements in the event of an inability to settle by the participant with the largest single net debit position.
5. Multilateral settlement systems should have objective and publicly-disclosed criteria for admission which permit fair and open access.
6. Multilateral settlement systems should ensure the operational reliability of technical systems and the availability of backup facilities capable of completing daily processing requirements.

Risk management measures: For systems that the Board has determined are required to meet the Lamfalussy Minimum Standards, systems and their participants should consider the following risk management measures: (1) to the extent that participants have significant credit and liquidity exposures to other participants, establish bilateral net credit limits vis-à-vis each other participant in the system; (2) establish and monitor in real-time system-specific net debit limits for each participant; (3) establish real-time controls to reject or hold any payment or foreign exchange contract that would cause a participant's position to exceed the relevant bilateral and net debit limits; (4) establish liquidity resources, such as cash, committed lines of credit secured by collateral, or a combination thereof, at least equal to the largest single net debit position; and (5)

establish rules and procedures for the sharing of credit losses among the participants in the netting system.<sup>11</sup>

Alternative risk management measures may provide an equivalent level of assurance that the Lamfalussy Minimum Standards are met, depending on the nature and scope of the system. However, the Board strongly encourages systems to develop real-time risk management controls where necessary to provide an appropriate level of risk control. The Board may also encourage or require higher risk management standards, such as the ability to ensure timely multilateral settlement in the event of multiple defaults, of individual systems that present a potentially high degree of systemic risk, by virtue of their high volume of large-value transactions or central role in the operation of the financial markets.

### Offshore systems

The Board has a long-standing concern that steps taken to reduce systemic risk in U.S. large-dollar payments systems may induce the further development of multilateral systems for settling U.S. dollar payments that are operated outside the United States. Such systems, if implemented with inadequate attention to risk management, may increase risks to the international banking and financial system. In addition, offshore arrangements have the potential to operate without sufficient official oversight.

As a result, the Board has determined that offshore, large-dollar multilateral settlement systems and multicurrency clearing and settlement systems should at a minimum be subject to oversight or supervision, as a system, by the Federal Reserve, or by another relevant central bank or supervisory authority. The Board recognizes that central banks have common policy objectives with respect to large-value clearing and settlement arrangements. Accordingly, the Board expects that it will cooperate, as necessary, with other central banks and foreign banking supervisors in the application of the Lamfalussy Minimum Standards to offshore and multicurrency systems. In this regard, the Principles for Co-operative Central Bank Oversight outlined in the Lamfalussy Report provide an important international framework for cooperation.

By order of the Board of Governors of the Federal Reserve System,  
June 18, 1998.

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<sup>11</sup>The term “largest single net debit position” means the largest intraday net debit position of any individual participant at any time during the daily operating hours of the netting system.

(Signed) Jennifer J. Johnson

Jennifer J. Johnson,  
Secretary of the Board